IN THE CLAIMS

Please amend the claims as follows:

Claims 1-26 (Canceled).

Claim 27 (New): A radio communication method by a radio communication system in which output signals are generated from a plurality of information signals and then transmitted respectively at a plurality of different frequencies to a system of a communication partner from N antennas, N being an integer of 2 or larger, the method comprising:

receiving control information transmitted by the system of the communication partner; and

transmitting transmission signals respectively at the plurality of frequencies from the N antennas based on the received control information, the transmission signals each being generated based on a first operation result, which is obtained by multiplying a first information signal by a first N-dimensional weight vector, and a second operation result, which is obtained by multiplying a second information signal by a second N-dimensional weight vector, wherein

the control information includes weight-related information including a set of the first N-dimensional weight vector and the second N-dimensional weight vector, and

the weight-related information is common to the plurality of frequencies.

Claim 28 (New): The radio communication method according to Claim 27, wherein:

the first information signal and the second information signal include one of a set of signals modulated by different modulation schemes and a set of signals encoded by different encoding methods.

Claim 29 (New): The radio communication method according to Claim 28, wherein:

the weight-related information is common to all of the plurality of frequencies used for signal transmission from the radio communication system to the system of the communication partner.

Claim 30 (New): The radio communication method according to Claim 27, wherein:

the weight-related information is common to all of the plurality of frequencies used for signal transmission from the radio communication system to the system of the communication partner.

Claim 31 (New): A radio communication system in which output signals are generated from a plurality of information signals and then transmitted respectively at a plurality of different frequencies to a system of a communication partner from N antennas, N being an integer of 2 or larger, comprising:

reception means for receiving control information transmitted by the system of the communication partner; and

transmission means for transmitting transmission signals respectively at the plurality of frequencies from the N antennas based on the received control information, the transmission signals each being generated based on a first operation result, which is obtained by multiplying a first information signal by a first N-dimensional weight vector, and a second operation result, which is obtained by multiplying a second information signal by a second N-dimensional weight vector, wherein

the control information includes weight-related information including a set of the first N-dimensional weight vector and the second N-dimensional weight vector, and

the weight-related information is common to the plurality of frequencies.

Claim 32 (New): The radio communication system according to Claim 31, wherein:

the first information signal and the second information signal include one of a set of signals modulated by different modulation schemes and a set of signals encoded by different encoding methods.

Claim 33 (New): The radio communication system according to Claim 32, wherein:

the weight-related information is common to all of the plurality of frequencies used for signal transmission from the radio communication system to the system of the communication partner.

Claim 34 (New): The radio communication system according to Claim 31, wherein:

the weight-related information is common to all of the plurality of frequencies used for signal transmission from the radio communication system to the system of the communication partner.